

AMENDMENTS TO THE SPECIFICATION

Please replace the paragraph at page 35, lines 5-18, with the following amended paragraph:

In an embodiment, the server 400 performs a short-cut replica creation to transfer data from a nearby existing replica. To create a replica of file  $F$ , node  $S$  first discovers the file's gold replicas in the directory 410 entry during the path-name lookup. Node  $S$  then requests the file contents from the gold replica closest to node  $S$  (e.g., say gold replica  $P$  (417) on server 450). Gold replica  $P$  then finds a replica closest to node  $S$  among its own graph neighbors (e.g., say replica  $X$  (418) on server 455, which may be gold replica  $P$  itself) and forwards the request to replica  $X$ , which in turn sends the contents to node  $S$ . At this point a replica 405 of file  $F$  has been created on node  $S$  and node  $S$  replies to the user and lets the user start accessing the local replica of  $F$  (via client 425).

Please replace the paragraph at page 36, lines 8-28, with the following amended paragraph:

The node  $S$  (400) satisfies all these goals simultaneously, as a replica can have multiple edges. Typically, the node  $S$  (via replication engine 115) chooses three types of peers for the new replica. First, node  $S$  adds an edge to a random gold replica, preferably one from a different region than node  $S$ , to give that gold replica more variety of regions in its neighbor set. Second, node  $S$  asks a random gold replica, say e.g., gold replica  $P$  (417) on server 450, to pick the replica (among gold replica  $P$ 's immediate graph neighbors) closest to node  $S$ . The replication engine 115 in server 450 will perform the function of picking the replica closest to node  $S$  (among gold replica  $P$ 's immediate graph neighbors). In the example of Figure 15, the gold replica  $X$  (418) on server 455 is determined and picked as the replica closest to node  $S$ . Third, node  $S$  asks gold replica  $P$  to choose  $m-2$  random replicas using random walks that start from gold replica  $P$  and perform a series of RPC (Remote Procedure Calls) calls along graph edges. This protocol ensures that the resulting graph is  $m$  edge- and node- connected, provided that it was  $m$ -connected before.